

REMARKS

In response to the Office Action mailed March 24, 2004, Applicant amends his application and requests reconsideration. In this Amendment, claims 3 and 4 are cancelled leaving claims 1 and 2 pending.

In this Amendment examined claims 1 and 3 are essentially combined as amended claim 1. This amendment requires cancellation of claims 3 and 4. The only other amendments are directed strictly to issues of form.

The invention concerns a method of manufacturing a lens by compressing an optical blank between an upper mold and a lower mold. At least one of the upper and lower molds slides within a trunk mold in order to compress the optical material. As explained in the patent application, in prior processes, as illustrated in Figure 4 of the patent application, the inside diameter of the trunk mold, which essentially matches the outside diameter of the upper and lower molds, was substantially larger than the outside diameter of the optical material blank. As a result, in the compression process, the optical material of the blank could be unevenly compressed so that the space between the upper and lower molds was not completely filled with the optical material. The lens produced was thus defective. In the invention, the outside diameter of the spherical optical material is very close to the inside diameter of the trunk mold. This close dimensional relationship prevents the optical material from moving laterally within the space between the upper and lower mold during the compressing process. Thus, the optical material more accurately fills the space between the upper and lower molds and a defect-free lens is formed in the claimed process.

Claims 1 and 4 were rejected as anticipated by or obvious over Kingston (U. S. Patent 2,432,668). This rejection is moot in view of the combination of claims 1 and 3 as amended claim 1, since claim 3 was not so rejected.

Claims 2 and 3 were rejected as obvious over Kingston. This rejection is respectfully traversed as to the claims now pending.

The Examiner acknowledged that Kingston does not disclose a process in which the optical material, i.e., the blank, is spherical. In fact, what Kingston contemplates is the use of a pre-formed lens blank for use in compression molding. Kingston illustrates the use of a disk of an optical material as employed in the compression process to produce a double convex lens. By contrast, in the invention a spherical blank, i.e., a blank of optical material that has not yet been formed, since the lens resulting from the compression process is not a spherical lens, is employed.

Kingston never suggests that the optical material used in his molding process can be or should be spherical, demonstrating that the rejection is erroneous. According to column 2, lines 14-27 of Kingston, important advantages of his invention involve the preparation of a flat blank by cutting or other mechanical means so that the resulting preform has nearly the curvature and size of the finished lens. By preparing this preform, "little material remains to be moved under pressure in the mould, to reach the final dimensions" of the lens. Further, according to Kingston beginning in column 2 at line 52, "the fact that so little material is caused to flow under pressure in the die makes it easier to predetermine the exact desired thickness of the lens...". Similar statements appear elsewhere in Kingston. For example, at column 3 beginning in line 9, "the fact that the perform provides so little material to flow radially under pressure not only aids in preventing the formation of stress patterns; [sic] it also is a safeguard against the formation of a local 'hot spot'...". See also the paragraph beginning in column 4, line 10 concerning the formation of the circular blank by machining in a lathe, a process totally inconsistent with employing a spherical blank of an optical material.

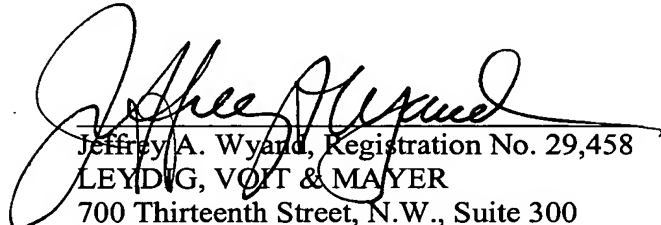
The entire thrust of Kingston is minimizing the flow of optical material that is compressed to form a lens. The Examiner even acknowledged this feature of Kingston at page 3 of the Office Action, "one of ordinary skill in the art would desire to make the blank as close as possible to the final lens shape desired...". Making a non-spherical lens using a blank of optical material having a spherical shape is the antithesis of what is described and suggested in Kingston and by the Examiner's description of Kingston and knowledge in the art.

Even if the outside diameter of the spherical optical material is very close to the inside diameter of the mold cavity, as in the invention, in manufacturing a non-spherical lens, substantial lateral flow of the optical material is inevitable. The zero radial flow of Kingston, about which the Examiner speculated, could never be accomplished according to the invention, further demonstrating, based upon the Office Action itself, that amended claim 1 cannot be obvious in view of Kingston.

In re Appln. of HIROAKI FUJITA
Application No. 10/083,400

Accordingly, reconsideration and allowance of the remaining claims are earnestly solicited.

Respectfully submitted,


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Date: June 4, 2004
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